



**APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL**

Component Title: Capacitors, Fixed, Chip, Ceramic Dielectric, type II, based on types 0805, 1206, 1210, 1812, 2220  
 Executive Member: CNES Date: 24/02/2021

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Components (including series and families) submitted for Extension of Qualification Approval: 1

| ESCC COMPONENT NO.        | VARIANTS   | RANGE OF COMPONENTS | BASED ON          | TEST VEHICLE / S   | COMPONENT SIMILAR                                    |
|---------------------------|------------|---------------------|-------------------|--|--|
| 3009 008                  | 03, 06, 07 | See box 14          | 0805              | 300900807104KC<br>300900807331KG<br>300900807471KG                   | AN12ZD0104KT6  |
| 3009 009                  | 03, 06, 07 |                     | 1210              | 300900907104MC<br>300900906473KE<br>300900906333KE                   |  |
| 3009 010<br>-<br>3009 011 | 03, 06, 07 |                     | 1812<br>-<br>2220 | 300901007154KG<br>300901007104KG<br>300901007474KE<br>300901107105KE | AN14ZD0684KT6<br>AN14ZF0104JT2<br>-<br>AN15ZE0105KT5 |
| 3009 023                  | 03, 06, 07 |                     | 1206              |  | AN20ZE0104KT2  |

|   |   |  |   |   |   |
|---|---|--|---|---|---|
| Component Manufacturer<br>AVX France<br>A division of AVX Corporation | 2 | Location of Manufacturing Plant(s)<br>Avenue du Colonel Prat<br>21850 SAINT APOLLINAIRE - FRANCE | 3 | Date of original qualification approval:<br>Date: 01/02/1983<br><br>Certificate Ref No. 110 | 4 |
|---|---|--|---|---|---|

|  |   |  |   |   |   |
|--|---|--|---|---|---|
| ESCC Specifications used for Maintenance of qualification testing:<br>Generic 3009 Iss 2<br><br>Detail(s) 3009/008 Iss 5 / 6<br>3009/009 5 / 6<br>3009/010 4 / 5<br>3009/011 4 / 5<br>3009/023 5 / 6 | 5 | Deviations to LVT testing and Detail Specification used:<br>No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> (supply details in Box 15)<br><br>Deviation from current Specifications:<br>No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (Supply details) | 6 | Qualification Extension Report reference and date:<br>VOQ 2021 Certificate 110 (Type 2), March 2021 | 7 |
|--|---|--|---|---|---|

Summary of procurement or equivalent test results during current validity period in support of this application (those to ESCC listed first) 8

| Project Name                    | Testing Level | LVT | Date code              | Quantity Delivered |
|---------------------------------|---------------|-----|------------------------|--------------------|
| AIRBUS (TESAT) TAS              |               | 1   | 20-14                  |                    |
| ALTER, A. BEHRENS(G), RUAG, TTI |               |     | Feb. 2019 to Jan. 2021 | 230 987 parts      |

|   |   |  |    |
|---|---|--|----|
| PID changes since start of qualification<br><br>None <input checked="" type="checkbox"/><br>Minor* <input type="checkbox"/><br>Major* <input type="checkbox"/> *Provide details in box: | 9 | Current PID Verified by: <u>JP Bussenot, CNES</u><br>Name of Agency Representative<br>Ref No: 1G2 PID 100 20WQ<br>Issue: 20 Date: 11/02/2021<br>Rev Date: 10/02/2021 | 10 |
|---|---|--|----|

Current Manufacturing facilities surveyed by: JP Bussenot, CNES on 12/12/2018  
 (Name of Agency Representative) (Date)  
 Satisfactory: Yes  No  Explain  
 Report Reference: CNES/DSO/AQ/CQ-2018.0022759, 18/12/2018 11



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Failure Analysis, DPA, NCCS available: Yes [x] No [ ] (Supply data) See in appendix

Ref. No's and purposes: AVX France internal DPA results showing the efficiency of improvements implemented in 2015 (NCCS 2CTPC501 refers) and 2020 (see application 110P rev1)

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The undersigned hereby certifies on behalf of the ESCC Executive - that the above information is correct; - that the appropriate documentation has been evaluated; - that full compliance to all ESCC requirements is evidence (except as stated in box 15;) - that the reports and data are available at the ESCC Executive and therefore applies on behalf of CNES as the responsible Executive Member for ESCC qualification status to be extended to the component(s) listed

Date: 06/04/2021

JP. BUSSENOT
(Signature of the Executive Coordinator)

Continuation of Boxes above:

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Table with 7 columns: Style, Detail Spec., Model, Variants, Capacitance Range (pF), Rated Volt. (V), Tolerance (±%). Rows include styles 0805, 1210, 1812, 2220, and 1206 with their respective specifications and tolerances.

Note that in order to facilitate deliveries, minimum values were harmonized on the basis that a capacitance value may be delivered with a qualified process using either a higher voltage product or a compatible temperature characteristic (i.e. a variant 06 design against a variant 07 order) provided that the maximum chip thickness is compliant.



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Non compliance to ESCC requirements:

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| No.: | Specification | Paragraph | Non compliance |
|------|---------------|-----------|----------------|
|      |               |           |                |

Additional tasks required to achieve full compliance for ESCC qualification or rationale for acceptability of non compliance:

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Executive Manager Disposition

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Application Approval: Yes  No

Action / Remarks:

Date :  
:

*SH 81*  
Digitally signed  
by Britta Schade  
Date: 2021.04.29  
13:09:47 +02'00'

B. Schade: Head of the Product Assurance and Safety Department



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**ANNEX 1: LIST OF TESTS DONE TO SUPPORT EXTENSION OF QUALIFICATION**

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Tests conducted in compliance with:

- ESCC 3009 generic specification; Chart F4 (for ESCC/QPL parts);
- Or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

|  |  |
|--|--|
| 300900807104KC (A612ZD0104KNC) DC 1933, 2006, 2034 | 300900906473KE (A613GE0473KNC) DC 2020                   |
| 300900807331KG (A612ZF0331KNC) DC 1939             | 300900907104MC (A613ZD0104MNC) DC 2028                   |
| 300900807471KG (A612ZF0471KNC) DC 2018             |  |
| 300901007154KG (A614ZF0154KNC) DC 1938             | 300901007474KE (A614ZE0474KNC) DC 2020                   |
| 300901007104KG (A614ZF0104KNC) DC 1948, 2014       | 300901107105KE (A615ZE0105KNC) DC 1937, 1950, 2024, 2041 |

Detail Specification reference: 3009/008/009/010/011

| Chart F4                            | Test                        | Tick when done                      | Conditions           | Date Code | Tested Qty | No. of Rejects | Comments if not performed.<br>Comments on Rejection |
|-------------------------------------|-----------------------------|-------------------------------------|----------------------|-----------|------------|----------------|---|
| Environmental / Mechanical Subgroup | Mounting                    | <input checked="" type="checkbox"/> | IEC 60384-1          | 1933      | 20         | 0              | (*) Customer LVT                                    |
|                                     |                             |                                     |                      | 1939      | 25         |                |   |
|                                     |                             |                                     |                      | 1938      | 25         |                |   |
|                                     |                             |                                     |                      | 1937      | 25         |                |   |
|                                     |                             |                                     |                      | 1948      | 25         |                |   |
|                                     |                             |                                     |                      | 1950      | 25         |                |   |
|                                     |                             |                                     |                      | 2006      | 25         |                |   |
|                                     |                             |                                     |                      | 2020      | 25         |                |   |
|                                     |                             |                                     |                      | 2024      | 25         |                |   |
| 2020                                | 25                          |                                     |                      |           |            |                |   |
| 2028                                | 25                          |                                     |                      |           |            |                |   |
| 2018                                | 25                          |                                     |                      |           |            |                |   |
| 2034                                | 25                          |                                     |                      |           |            |                |   |
| 2041                                | 25                          |                                     |                      |           |            |                |   |
| 2014 (*)                            | 20                          |                                     |                      |           |            |                |   |
|                                     | Rapid Change of Temperature | <input checked="" type="checkbox"/> | IEC 60068-2-14       | 1933      | 20         | 0              |   |
|                                     |                             |                                     |                      | 1939      | 25         |                |   |
|                                     |                             |                                     |                      | 1938      | 25         |                |   |
|                                     |                             |                                     |                      | 1937      | 25         |                |   |
|                                     |                             |                                     |                      | 1948      | 25         |                |   |
|                                     |                             |                                     |                      | 1950      | 25         |                |   |
|                                     |                             |                                     |                      | 2006      | 25         |                |   |
|                                     |                             |                                     |                      | 2020      | 25         |                |   |
|                                     |                             |                                     |                      | 2024      | 25         |                |   |
| 2020                                | 25                          |                                     |                      |           |            |                |   |
| 2028                                | 25                          |                                     |                      |           |            |                |   |
| 2018                                | 25                          |                                     |                      |           |            |                |   |
| 2034                                | 25                          |                                     |                      |           |            |                |   |
| 2041                                | 25                          |                                     |                      |           |            |                |   |
| 2014 (*)                            | 20                          |                                     |                      |           |            |                |   |
|                                     | Steady State Humidity       | <input checked="" type="checkbox"/> | ESCC 3009, Para. 8.2 | 1933      | 20         | 0              | 1 000 hours   |
|                                     |                             |                                     |                      | 1939      | 25         |                |   |
|                                     |                             |                                     |                      | 1938      | 25         |                |   |
|                                     |                             |                                     |                      | 1937      | 25         |                |   |
|                                     |                             |                                     |                      | 1948      | 25         |                |   |
|                                     |                             |                                     |                      | 1950      | 25         |                |   |
|                                     |                             |                                     |                      | 2006      | 25         |                |   |
|                                     |                             |                                     |                      | 2020      | 25         |                |   |
|                                     |                             |                                     |                      | 2024      | 25         |                |   |
| 2020                                | 25                          |                                     |                      |           |            |                |   |
| 2028                                | 25                          |                                     |                      |           |            |                |   |
| 2018                                | 25                          |                                     |                      |           |            |                |   |
| 2034                                | 25                          |                                     |                      |           |            |                |   |
| 2041                                | 25                          |                                     |                      |           |            |                |   |
| 2014 (*)                            | 20                          |                                     |                      |           |            |                |   |

|                                    |  |   |                      |   |  |   |   |
|------------------------------------|--|---|----------------------|---|--|---|---|
|                                    | Visual Inspection                                | ☒ | ESCC 3009, Para. 8.5 | 1933<br>1939<br>1938<br>1937<br>1948<br>1950<br>2006<br>2020<br>2024<br>2020<br>2028<br>2018<br>2034<br>2041<br>2014 (*)              | 20<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>20             | 0 |   |
| Endurance Subgroup                 | Mounting   | ☒ | IEC 60384-1          | 1933<br>1939<br>1938<br>1937<br>1948<br>1950<br>2006<br>2020<br>2024<br>2020<br>2028<br>2018<br>2034<br>2041<br>2014 (*)<br>2028 (**) | 25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>40<br>10<br>20 | 0 | (*) Customer LVT<br>(**) CECC                 |
|                                    | Operating Life                                   | ☒ | ESCC 3009, Para. 8.9 | 1933<br>1939<br>1938<br>1937<br>1948<br>1950<br>2006<br>2020<br>2024<br>2020<br>2028<br>2018<br>2034<br>2041<br>2014 (*)<br>2028 (**) | 25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>40<br>10<br>20 | 0 | 2 000 hours<br>(*) Customer LVT (1 000 hours) |
|                                    | Electrical Measurements during Endurance Testing | ☒ | ESCC 3009, Para. 8.9 | 1933<br>1939<br>1938<br>1937<br>1948<br>1950<br>2006<br>2020<br>2024<br>2020<br>2028<br>2018<br>2034<br>2041<br>2014 (*)<br>2028 (**) | 25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>40<br>10<br>20 | 0 |   |
|                                    | Mounting   | ☒ | IEC 60384-1          | 1933<br>1939<br>1938<br>1937<br>1948<br>1950<br>2006<br>2020<br>2024<br>2020<br>2028<br>2018<br>2034<br>2041<br>2014 (*)<br>2028 (**) | 6<br>6<br>6<br>6<br>6<br>10<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>10<br>20              | 0 | Before Robustness of Terminations             |
| Electrical Subgroup (Elect. Meas.) | Mounting   | ☒ | IEC 60384-1          | 1933<br>1939<br>1938<br>1937<br>1948<br>1950<br>2006<br>2020<br>2024<br>2020<br>2028<br>2018<br>2034                                  | 6<br>6<br>6<br>6<br>6<br>10<br>6<br>6<br>6<br>6<br>6<br>6<br>6                               | 0 | Before Robustness of Terminations             |

|                  |   |                                     |                              |  |  |   |   |
|------------------|---|-------------------------------------|------------------------------|--|--|---|---|
|                  |   |                                     |                              | 2041<br>2014 (*)   | 6<br>3   |   |   |
|                  | Insulation resistance at +125°C           | <input checked="" type="checkbox"/> | ESCC 3009, Para 8.10         | 1933<br>1939<br>1938<br>1937<br>1948<br>1950<br>2006<br>2020<br>2024<br>2020<br>2028<br>2018<br>2034<br>2041<br>2014 (*) | 6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>3  | 0 |   |
|                  | Temperature Coefficient (Type I)          | <input type="checkbox"/>            | ESCC 3009, Para. 8.10        |  |  |   | Not applicable  |
|                  | Temperature Characteristic (Type II)      | <input checked="" type="checkbox"/> | ESCC 3009, Para. 8.10        | 1933<br>1939<br>1938<br>1937<br>1948<br>1950<br>2006<br>2020<br>2024<br>2020<br>2028<br>2018<br>2034<br>2041<br>2014 (*) | 6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>3  | 0 |   |
|                  | Robustness of Terminations                | <input checked="" type="checkbox"/> | ESCC 3009, Para.8.7          | 1933<br>1939<br>1938<br>1937<br>1948<br>1950<br>2006<br>2020<br>2024<br>2020<br>2028<br>2018<br>2034<br>2041<br>2014 (*) | 6<br>6<br>6<br>6<br>6<br>10<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>3 | 0 |   |
|                  | Electrical Subgroup (Ass. / Capab. Tests) |                                     |                              |  |  |   |   |
|                  | Solderability                             | <input checked="" type="checkbox"/> | IEC 60068-2-58 Test Td       | 2014 (*)   | 3  | 0 | (*) Customer LVT  |
|                  | Permanence of Marking                     | <input type="checkbox"/>            | ESCC 24800                   |  |  |   | Not applicable  |
| Additional Tests | Resistance to Soldering Heat              | <input checked="" type="checkbox"/> | CECC 32101-801, +260°C - 30s | 1942<br>1943<br>2007<br>2023<br>2028   | 12<br>12<br>12<br>12<br>12   | 0 | AN14ZD0684K Lot B94000701<br>AN15ZE0105K Lot B94000802<br>AN14ZF0104J Lot C00700201<br>AN12ZD0104K Lot C01400101<br>AN20ZE0104K Lot C02500101 |
|                  |   | <input type="checkbox"/>            |                              |  |  |   |   |
|                  |   | <input type="checkbox"/>            |                              |  |  |   |   |

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Date: 24/02/2021

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**NOTES ON THE COMPLETION OF THE APPLICATION FORM FOR ESCC QUALIFICATION EXTENSION APPROVAL**

- ENTRIES** shall indicate: - the title of the component as given in its detail specification or the name of the series, family; - the Executive Member; - the entering date; - the certificate number and its sequential suffix.
- Form heading**
- Box 1** shall provide details given in the table; in particular there shall be listed: - the variants or range of variants; - the range of components (the ESCC code is recommended to indicate the values or values range, the tolerance, the voltage, etc); the designation given in the detail specification as 'base on'; - under Test Vehicle enter either an ESCC code or the specific characteristic capable of identifying the component tested (e.g., voltage of coil for a relay); - under component similar enter a cross if relevant.
- Box 2, 3 & 4** As per QPL entry; otherwise, an explanation of the changes must be supplied.
- Box 5** Will show the ESCC Generic and Detail specifications, including issue number and revision letter, current at the time the tests reported were performed. If the specifications are different from those current on the date of the application, see Box 6.
- Box 6** Will show the deviations from the Generic and Detail Specifications listed in Box 5, in particular deviations from testing. In case of deviations this must be listed in Box 15. In case the referenced specification in Box 5 have currently a different issue and/or revision indicate also whether the test data deviates or not from such current documents.
- Box 7** Must reference the report(s) supplied in support of the application.
- Box 8** Should provide the details of procurement to the full ESCC System, documentation of all of which should already have been delivered to the ESCC Executive under the terms of the relevant Generic Specification. An appropriate table has been drawn in this box.
- Box 9** If the PID evolved after the Original Qualification or after the last Extension of Qualification, adequate details of such evolution shall be provided together with the reasons for the changes. Major changes shall be clearly marked.
- Box 10** Identify the current PID issue status, date and actual date of verification. The date of verification of the current PID should be arranged as close as possible to the required date of extension.
- Box 11** This box can be completed only after a physical visit to the plant to confirm that no unexplained changes occurred and that the practices, procedures, material, etc. used in manufacturing the components are as described in the PID. This survey shall be carried out in accordance with the requirements of ESCC Basic Specification No. 20200 and its findings shall be recorded.
- Box 12** Provide details of, or reference to, any Destructive Physical Analysis (DPA) and Failure Analysis reports as well as any Nonconformance(s) (NCCS) occurred during the qualification validity period, stating if established corrective action have produced satisfactory results.
- Box 13** Enter only the name of the Executive Member (i.e., CNES, DLR, ESTEC, etc.) and the signature of the responsible Executive Coordinator.
- Box 14** To be used when there is a need to expand any of the boxes from 1 through 12. Identify box affected and reference the Box 14 in the relevant Box. Box 14 can be broken into 14a, 14b, etc. if several boxes have to be expanded.
- Box 15** Fill in Table as requested.
- Box 16** Any additional action deemed necessary by the Executive Member to bring the submitted data to a standard likely to be accepted by the ESCC Executive should be listed herein or the reason(s) to accept the noncompliance.
- Box 17** All Executive Manager recommendations on the application itself, special conditions or restrictions, modifications of the QPL or QML entry, letters to the manufacturer, etc. shall be entered clearly in Box 19, signed by the representative for ESA, and dated.
- Box 18** Fill in Table as requested.
- Box 19** Confidential Details of PID changes including those of a confidential nature, shall be provided.
- Box 20** State noncompliance with reference to specification(s) and paragraph(s). To simplify reference in Box 16 each nonconformance shall be sequentially numbered. If relevant state 'None'.
- Box 21** Any additional action deemed necessary by the Executive Member to bring the submitted data to a standard likely to be accepted by the ESCC Executive should be listed herein or the reason(s) to accept the noncompliance.
- Box 22** Additional Comments.